Driving Investment in Energy Efficiency Through Standardization

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EXCEPTIONAL DELIVERY

MEASURABLE RESULTS

4,500+ GWH SAVED ANNUALLY
54M+ THERMS SAVED ANNUALLY
30,000+ CONTRACTOR PARTNERS
60+ OFFICES ACROSS US AND CANADA

SECURE $320M+ INCENTIVES PROCESSED ANNUALLY

480K+ REBATES PROCESSED ANNUALLY

SOPHISTICATED
800+ ACTIVE PROGRAMS
8M+ CALLS HANDLED ANNUALLY
2,500+ CURRENT EMPLOYEES

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## What is stimulating change?

### Challenges

- Public & regulatory policy dynamics
- Business models being challenged
- Flat unit sales – almost no new load
- Same or higher costs distributed over fewer ratepayers
- Reliability and resiliency concerns
- Lack of system integration; energy efficiency is not time or location specific
- Systems benefits charges not sufficient to meet new targets, policy objectives
- DERs and centralized generation in opposition in current regulatory models

### Opportunities

- Enabling innovative technologies now available
- Treat energy efficiency as capacity
- Use efficiency and DR to replace infrastructure investments
- Create new revenue streams through energy services to customers
- Align business, environmental and economic objectives
- Generate cash flows for investors
- Allow energy efficiency to truly compete alongside other DERs in a marketplace
Savings Methodologies

- **Deemed Savings:**

- **IPMVP Option A:**
  - Isolation Retrofit; stipulated savings

- **IPMVP Option B:**
  - Isolation Retrofit, All parameters measured

- **Randomized Control Trial**
  - e.g. Behavior

- **IPMVP Option C:**
  - (or other)
  - Normalized Whole Building Estimation

- **IPMVP Option D:**
  - Calibrated Computer Simulation


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The Current vs. Future Model of Procuring EE

**Current Model**

1. Set goals/targets (IRPs, Power Plans, etc)
2. Make deemed or modeled assumptions for "measures"
3. Provide incentives for measures, deliver to customers
4. Evaluate, measure and verify impacts

**New Model**

1. Market delivers DER goods and services to customers
2. Whole home/bldg savings measured at the meter
3. Projects aggregated into a portfolio
4. Utility (or grid operator) pays for delivered EE capacity
### Open Source Real-time Metered Efficiency

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Savings</td>
<td>13%</td>
</tr>
<tr>
<td>Annual Therms Saved Project / Year</td>
<td>139</td>
</tr>
<tr>
<td>Gas Meters</td>
<td>2,149</td>
</tr>
<tr>
<td>Electric Savings</td>
<td>4.1%</td>
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<tr>
<td>Annual kWh Saved</td>
<td>356</td>
</tr>
<tr>
<td>Electrical Meters</td>
<td>2,643</td>
</tr>
</tbody>
</table>

#### Natural Gas Savings [Average Normal Year]

![Natural Gas Savings Graph]

#### Electricity Savings [Average Normal Year]

![Electricity Savings Graph]

#### Therms Savings Distribution

![Therms Savings Distribution]

#### kWh Savings Distribution

![kWh Savings Distribution]
Efficiency is Manageable as a Portfolio

Graphic courtesy of Open EE Meter
What is Pay-for-Performance (P4P)?

- Finance, capital, operational, and behavioral interventions occur
- Measures outcomes in real-time
- Competition among aggregation firms to provide resources
- Aggregate energy savings and sell to load serving entity

Why would IOU favor P4P?

- Eliminates rate payer risks / realization rate short-falls
- Competition will drive down costs of procuring efficiency
- Appropriately designed programs will encourage additional 3rd party investment
- Cash flow benefits – EE/SBC funds can be allocated to market development activities while P4P is reimbursed over longer horizon
Spectrum of Metered EE Based Intervention – Driven by Market Readiness:

- M&V 2.0
- Enhanced performance insights
- Lowering M&V Costs

- Enhanced QA/QC
- Contractor Scoring
- Market Segmentation & Targeting

- Project allocations based on performance
- Time and locational analysis via AMI
- Automated Analytics
- P4P Pilots

- Market-based P4P and aggregation model
- EE as Demand Capacity Resource
Example of P4P Project in Development

A Pay For Success (P4S) approach will de-risk the project by raising the upfront capital from impact investors.

Impact Investors
- Repay investors if specific energy efficiency and social outcomes are achieved

Metered EE
- Measure and monitor outcomes achieved

NEW YORK IOU
- Work with households to plan and implement EE solutions

CLEAResult: EE solutions provider
- Provide up-front capital to scale services

Multiple LMI households
- Repay investors if specific energy efficiency and social outcomes are achieved

Graphic created by CLEAResult and Quantified Ventures
Pay-for-Performance Deal Structure and Financing

Slide courtesy of Open EE
Graphic created by CLEAResult and Open EE
Thank you